

AVERAGE TOPOGRAPHY, ISOSTATIC RESIDUAL GRAVITY, AND AEROMAGNETIC MAPS OF THE PARKFIELD REGION, CALIFORNIA

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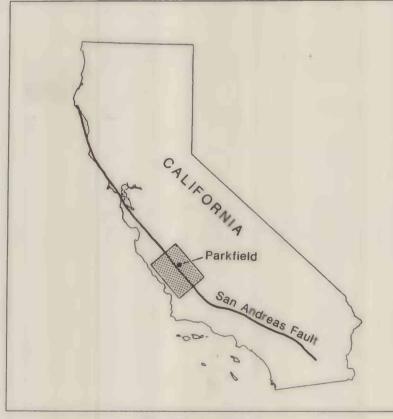
Average Topography Map

This average topography map is intended to provide a simplified overview of the topography in the Parkfield study area. Such a perspective is difficult to obtain from contours on the published 1° by 2° quadrangle maps because the eye is overwhelmed by the number and complexity of the contours shown.

The map displays contours on elevations averaged over 15 by 15 second cells by R. Godson of the U.S. Geological Survey. At the latitude of the study area, such a cell is approximately 0.46 km tall and 0.37 km wide. The elevations that were averaged came from a digital data set originally produced by digitizing the locations of points along contours on 1° by 2° quadrangle maps published at a scale of 1:250,000. This digital data set was obtained by R. Godson from the U.S. National Geodetic Survey, which in turn received it from the Electromagnetic Compatability Analysis Center, an agency of the U.S. Department of Defense.

The 15-second average elevation data are available on magnetic tape from the National Oceanic and Atmospheric Administration (NOAA) Data Center. (Address: National Geophysical and Solar-Terrestrial Data Center, NOAA, Boulder, CO 80303.) This data set has a defect that becomes apparent when a more closely spaced contour interval is used to display the average elevations: planar topographic slopes are mis-represented in the digital data by a succession of step-like terraces. This error appears to have been introduced into the digital data, perhaps by a bad interpolation algorithm or a rounding problem, at some point prior to the averaging done by R. Godson.

To make the map shown here, the 15-second average elevation data grid was projected using a transverse mercator projection with central meridian at 120.5°W longitude. The resulting map was rotated counterclockwise by 48° within a rectangular window to make the San Andreas fault zone parallel to the top and bottom



LOCATION MAP